



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/083,550

02/27/2002

Kazuhito Rokutan

ASAM.0051

5577

38327

7590

05/28/2008

REED SMITH LLP

3110 FAIRVIEW PARK DRIVE, SUITE 1400

FALLS CHURCH, VA 22042

EXAMINER

DEJONG, ERIC S

ART UNIT

PAPER NUMBER

1631

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/083,550	<b>Applicant(s)</b> ROKUTAN ET AL.	
	<b>Examiner</b> ERIC S. DEJONG	<b>Art Unit</b> 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007 and 27 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) 2-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED OFFICE ACTION**

Applicants response filed 12/27/2007 is acknowledged.

Claims 1 and 12 are canceled. Claims 2-11 are pending in the instant application. Claims 2-10 are withdrawn as being drawn to a non-elected species. Claim 11 is currently under examination.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

### ***Claim Objections***

The objection to claim 11 because of minor informalities is withdrawn in view of amendments made to the instant claim.

### ***Claim Rejections - 35 USC § 112***

Upon further review, the rejection of claim 11 under 35 U.S.C. 112, second paragraph, as being indefinite has been withdrawn by the examiner. Applicants argument that the phrase "comprising" in line 1 of the instant claim is intended to be open-ended such that the claimed array may comprise additional, unrecited elements is acknowledged. In light of this, the instantly claimed oligonucleotide array "comprising"

an array of multiple oligonucleotides has been construed to be open to further comprising additional sequences other than the multiple oligonucleotides recited in the instant claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Chenchik et al. (WO 98/53103, see IDS filed 12/15/2004). This rejection is maintained and reiterated from the previous Office action, mailed 05/02/2007.

The instant claim is drawn to an oligonucleotide array consisting of an array of multiple oligonucleotides with different base sequences fixed onto known and separate positions on a support substrate. Said multiple oligonucleotides are limited to biological stress related genes or complementary sequences of said genes. Further, the multiple oligonucleotides are classified according to their gene functions wherein the support substrate has fixation regions divided according to said classification.

Chenchik et al. discloses arrays of polynucleotides and related methods for their preparation and use (see Chenchik et al., Abstract). The disclosed arrays are taught as having a plurality of polynucleotide spots stably associated with the surface of a solid support (see ChenChik et al., page 6, lines 16 and 17). Each spot on an array

Art Unit: 1631

comprises a polynucleotide probe of known identity (see ChenChik et al., page 6, lines 17-19). Chenchik et al. further teaches that the spots may be arranged in any convenient pattern across or over the surface of the array (see Chenchick et al., page 6, lines 23-27). The substrate of the array comprises at least one surface on which a pattern of spots may be present, wherein the surface may comprise from about 10 to 5,000 distinct spots of distinct probes (see Chenchik et al., page 6, line 28 through page 7, line 8 and page 8, lines 5-30), which reads on an array of multiple oligonucleotides with different base sequence fixed onto known and separate substrate positions as instantly claimed. Chenchik et al. further sets forth that a critical feature of the arrays is that the polynucleotide spots on an array are made up of polynucleotide probes that all correspond to the same type or kind of gene, i.e. that all genes share some common characteristic or can be grouped together based on some common feature (see especially, Chenchik et al. page 9, lines 11-17), which reads on multiple oligonucleotides with different base sequences fixed onto known and separate positions on said support substrate as well as multiple oligonucleotides classified according to gene function as instantly claimed. Chenchik et al. further teaches that arrays will be of a specific type and further provides specific examples of representative type that include human stress arrays and mouse stress arrays (see Chenchik et al., page 9, lines 24-29), which reads on multiple oligonucleotides that are only biologically stress related genes or complementary sequences to said gene as instantly claimed.

Chenchik et al. also discloses a human stress array wherein all of the unique polynucleotide probe compositions correspond to genes that are associated with stress

responses of human cells (see Chenchik et al., page 87). Further, Table 5 sets forth a description and associated activity of all biopolymers sequences used in the polynucleotide spots of a human stress array, which reads on the classification of gene functions (1)-(9) as set forth in lines 7-14 of claim 11. As described above, each distinct spot on the arrays disclosed by Chenchik et al. comprises distinct a polynucleotide probe of known identity arranged on the surface of the array. Therefore, the human stress array comprising a spots on the disclosed human stress array as set forth by Chenchik et al. reads on a support substrate that has fixation regions divided according to the classification of gene functions as recited in claim 11.

### ***Response to Arguments***

Applicant's arguments filed 08/30/2007 have been fully considered but they are not persuasive.

In regards to the rejection of claim 11 under 35 U.S.C. 102(b) as being anticipated by Chenchik et al., applicants argue that Chenchik et al. fails to teach the support substrate has fixation regions divided according to a classification based on gene functions as recited in claim 11.

In response, it is first noted that applicants have not contested the finding that Chenchik et al. teaches the nucleic acid sequences according to gene function (1)-(9) as recited in the instant claims (see Table 5 of Chenchik et al.) nor that Chenchik et al. teaches that these nucleic acid sequences are affixed to an array substrate at distinct locations. It is further reiterated from the instant rejection that each spot on the arrays

Art Unit: 1631

disclosed by Chenchik et al. comprises distinct a polynucleotide probe of known identity placed at a known location on the surface of an array. Therefore it is maintained that Chenchik et al. fully and clearly anticipates the instantly claimed array comprising a substrate having fixation regions divided according to a classification based on gene functions (1)-(9) as recited in the instant claim. It is further noted that the instant claims do not specify how an abstract classification of substrate regions results in any structural difference between the claimed array and the arrays set forth in the prior art, since Chenchik et al. clearly teaches that known nucleic acid sequences, encompassed under classifications (1)-(9) as recited in claim 11, are fixed to an array substrate at known and distinct regions.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1631

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC S. DEJONG whose telephone number is (571)272-6099. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moran Marjorie can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric S DeJong  
Primary Examiner  
Art Unit 1631

/Eric S DeJong/  
Primary Examiner, Art Unit 1631